

Use Attainability Analysis

for

WBID 0245 Middle Tarkio Creek

Submitted by
Tetra Tech, Inc

To
Missouri Department of Natural Resources
Water Protection Program

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet A - Water Body Identification

BOOKEND
2005 JUL 14 PM 2:45
WATER PROTECTION PROGRAM

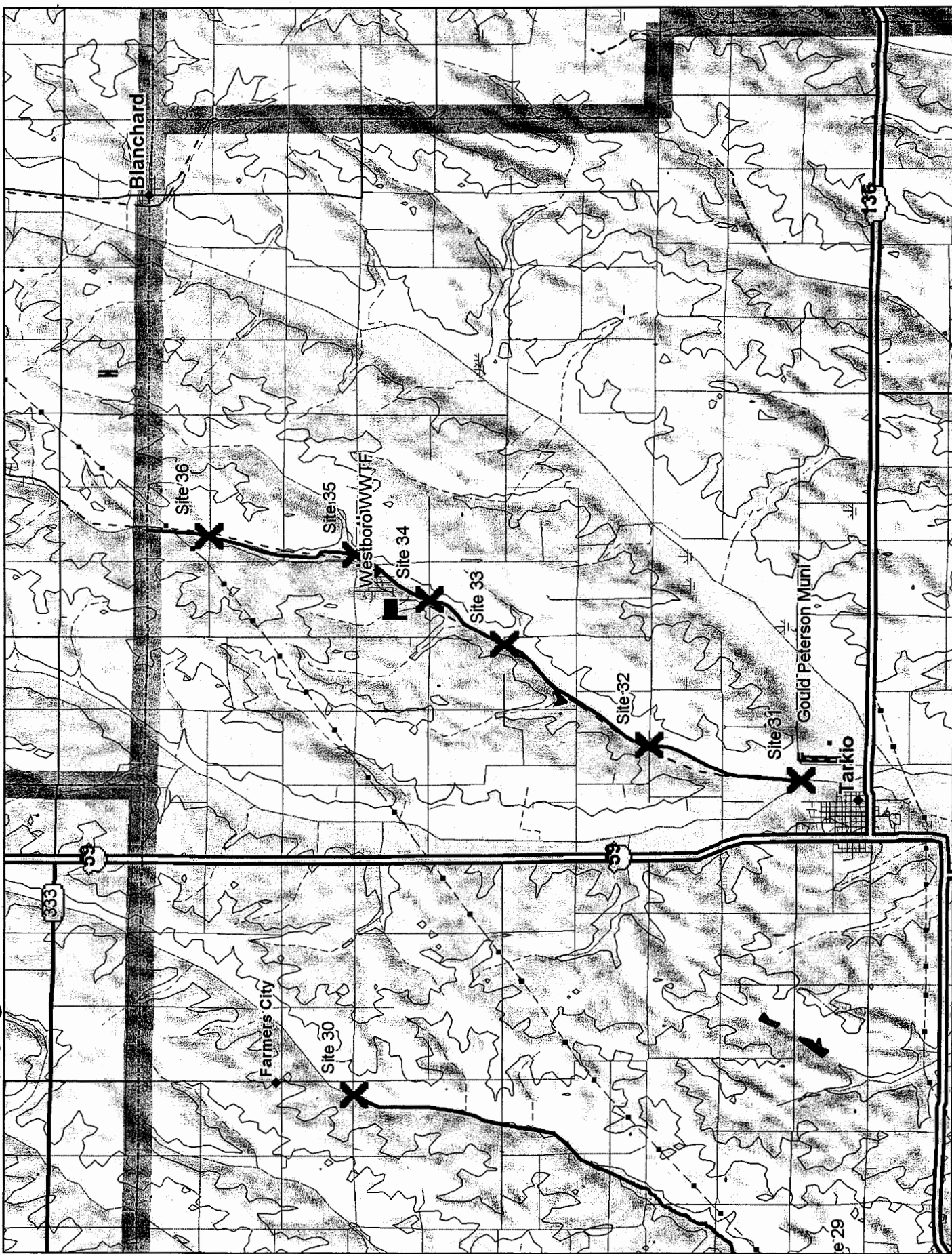
Water Body Name: (from USGS 7.5' quad)	Middle Tarkio Cr.
8-digit HUC:	10240005
Missouri WBID #:	0245
County:	Atchison
Upstream Legal Description:	NA
Downstream Legal Description:	NA
Upstream Coordinates: (UGS 84, ddd.dddd)	40.56762°N, 95.30997°W
Downstream Coordinates: (UGS 84, ddd.dddd)	40.4811°N, 95.36347°W
Discharger Facility Name(s):	Westboro WWTP
Discharger Permit Number(s):	NA
Number of Sites Evaluated:	6
Name of Surveyor and Telephone Number:	Shannon Prendergast 703-385-6000
Organization:	Tetratech
Position:	Scientist

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Shannon Prendergast Date: 7/11/05

SP 7/11/05

Middle Tarkio Cr.



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Scale: 1 : 112,500 Map Rotation: 0° Magnetic Declination: 4.0°E

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>0245</u>	Site Location Description: <u>#31 alt</u>	
Site GPS Coordinates: <u>40.49422°N, 95.35323°W</u>	<u>About 150m downstream of #33 alt</u>	
Date & Time: <u>7/11/05</u>	Facility Name: <u>Westboro WWTF</u>	
Personnel: <u>SP, YR</u>	Permit Number: <u>NA</u>	
Current Weather Conditions: <u>Sunny, hot</u>	Weather Conditions for Past 7 days: <u>Sunny, hot</u>	
Photo Ids: Upstream: <u>184</u>	Downstream: <u>K83</u>	Other: <u>NA</u>

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*:

(Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Agriculture/cropland w/ forest buffer</u>	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

#31 alt

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>12</u>	Length (ft): <u>150</u>	Avg. Depth (ft): <u>0.5</u>	Max. Depth (ft): <u>1.0</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>5 ft³ / 4 sec</u>	

sp 7/11/05

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>10</u>	Length (ft): <u>50</u>	Avg. Depth (ft): <u>0.75</u>	Max. Depth (ft): <u>2.0</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>5 ft³ / 7.3 sec</u>	

sp

Substrate*: (These values should add up to 100%.)

% Cobble	<u>10</u>	% Gravel	<u>50</u>	% Sand		% Silt	<u>40</u>	% Mud/Clay		% Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>none</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray/brown	<input checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Shawn Panchy Date: 7/11/05

Organization: Tetra Tech Position: Scientist

G.B. 7/14/05

0245-031-US



0245-031-DS



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>0245</u>	Site Location Description: <u># 32</u>	
Site GPS Coordinates: <u>40.4811°N 95.36347</u>		
Date & Time: <u>7/11/05 1:41 p.m.</u>	Facility Name: <u>Westboro WWTF</u>	
Personnel: <u>SP, YR</u>	Permit Number: <u>NA</u>	
Current Weather Conditions: <u>Sunny, hot</u>	Weather Conditions for Past 7 days:	
Photo Ids: Upstream: <u>178</u>	Downstream: <u>177</u>	Other: <u>179 (concrete under bridge maybe old road or bridge)</u>

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)				

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Agriculture/cropland w/ forest buffer</u>	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads/bridge	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

site 32

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>12</u>	Length (ft): <u>200</u>	Avg. Depth (ft): <u>0.5</u>	Max. Depth (ft): <u>0.75</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>5 ft³/3.3 sec</u> ^{SP 7/11/05}		

2.7 sec

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>12</u>	Length (ft): <u>250</u>	Avg. Depth (ft): <u>0.5</u>	Max. Depth (ft): <u>1.0</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>5 ft³/3.3 sec</u> ^{SP 7/11/05}		

5 ft³/3.3 sec

Substrate*: (These values should add up to 100%.)

<u>5</u> % Cobble	<u>20</u> % Gravel	<u>50</u> % Sand	% Silt	<u>25</u> % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>Some algae on sand (10% coverage)</u>
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Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Shane Prandley Date: 7/11/05Organization: Tetra Tech Position: Scientist

G. R. 7/11/05

0245-032-US



0245-032-DS



0245-032-Debris



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 0245	Site Location Description: #33 alt	
Site GPS Coordinates: 40.49530°N, 95.35240°W		
Date & Time: 7/11/05 3:00pm	Facility Name: Westboro WW	
Personnel: SP, YR	Permit Number: NA	
Current Weather Conditions: Sunny, hot	Weather Conditions for Past 7 days: Sunny hot	
Photo Ids: Upstream: 181	Downstream: 180	Other: 182 (possible at-fall, metal pipe)

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: Agriculture / cropland residential area, forest buffer	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

site 33 alt.

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>12</u>	Length (ft): <u>50</u>	Avg. Depth (ft): <u>0.5</u>	Max. Depth (ft): <u>1.5</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>5 ft³ / 3.5 sec</u>	

SR-7/11/05

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>12</u>	Length (ft): <u>50</u>	Avg. Depth (ft): <u>0.5</u>	Max. Depth (ft): <u>1.0</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>0.5 ft³ / 1 ft/sec</u>	

SR-7/11/05

Substrate*: (These values should add up to 100%.)

<u>5</u> % Cobble	<u>15</u> % Gravel	<u>50</u> % Sand	% Silt	<u>30</u> % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>some algae on cobbles and sand</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> <u>slightly</u> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> <u>slightly</u> Milky	<input checked="" type="checkbox"/> Other: <u>brown/grey</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> <u>small amounts</u> Scum	<input checked="" type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Cham Prud'homme Date: 7/11/05Organization: Tetra Tech Position: Scientist

GP-7/11/05

0245-033-US



0245-033-DS



0245-033-Pipe



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>0245</u>	Site Location Description: <u># 34</u> <u>On Road 140, just east of Sackel Rd.</u>
Site GPS Coordinates: <u>40.5241°N, 95.32588°W</u>	
Date & Time: <u>7/11/05</u>	Facility Name: <u>Westboro WWTF</u>
Personnel: <u>SP/YR</u>	Permit Number: <u>NA</u>
Current Weather Conditions: <u>Sunny, hot</u>	Weather Conditions for Past 7 days: <u>Sunny, hot</u>
Photo Ids: Upstream: <u>187</u>	Downstream: <u>186</u> Other: <u>185 (outfall downstream)</u>

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

188 (garbage)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> <u>Blocking of side to stream, but not inhibiting access</u>	<input checked="" type="checkbox"/> <u>Steep slopes</u>	<input checked="" type="checkbox"/> <u>Other: Agriculture / cropland forest buffer</u>	

Evidence of Human Use*:

<input checked="" type="checkbox"/> <u>Roads/bridge</u>	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> <u>Other: Garbage</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

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Site 34

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): 15	Length (ft): 100	Avg. Depth (ft): 0.25	Max. Depth (ft): 1.5
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): 5 ft ³ /4.4 sec	1 ft ³ /sec

7/11/05

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): 12	Length (ft): 75	Avg. Depth (ft): 0.25	Max. Depth (ft): 1.0
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): 5 ft ³ /4.4 sec	

Substrate*: (These values should add up to 100%.)

30 % Cobble	% Gravel	50 % Sand	% Silt	20 % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

no algae, some debris & garbage

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: brownish/green
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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Signed: Shannon Prandengst Date: 7/11/05Organization: Tetra Tech Position: Scientist

0245-034-US



0245-034-DS



0245-034-Debris



0245-034-Discharge



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 0245	Site Location Description: #35 on Road "O"	
Site GPS Coordinates: 40.53852°N 95.3147°W		
Date & Time: 7/11/05 4:00pm	Facility Name: Westboro WWTF	
Personnel: SP, YR	Permit Number: NA	
Current Weather Conditions: Sunny, hot	Weather Conditions for Past 7 days: Sunny, hot	
Photo Ids: Upstream: 190	Downstream: 189	Other:

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Phillip Mathers
404 High St
Westboro, MO 64498
Says that he knows people that use this stream for the following:
Hunting, trapping, Fishing, tubing, wading, & Canoeing

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: Residential cropland small forest buffer	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads/bridge	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

site 35

Stream Morphology:

Upstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft): <u>sp 7/11/05</u>	Max. Depth (ft): <u>sp 7-11-05</u>
<input checked="" type="checkbox"/> Pool	Width (ft): <u>25</u>	Length (ft): <u>75</u>	Avg. Depth (ft): <u>50 cm</u>	Max. Depth (ft): <u>75 cm</u>
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>5 ft³/26 sec</u> <u>sp 7/11/05</u>	

Downstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width (ft): <u>7</u>	Length (ft): <u>150</u>	Avg. Depth (ft): <u>0.25</u>	Max. Depth (ft): <u>0.5</u>
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>5 ft³/3 sec</u> <u>sp 7/11/05</u>	

Substrate*: (These values should add up to 100%.)

<u>down:</u> <u>100</u> % Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
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100% mud

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>Some algae, some grass in middle of stream</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>brown</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Shawn Pruden Date: 7/11/05Organization: Tetra Tech Position: Scientist

Sp. Pr. 7/11/05

0245-035-US



0245-035-DS



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 245	Site Location Description: # 36 on Road 110	
Site GPS Coordinates: 40.56762°N, 95.30997°W		
Date & Time: 7/11/05	Facility Name: Westboro WWTP	
Personnel: SP, YR	Permit Number: NA	
Current Weather Conditions: Sunny, Very hot	Weather Conditions for Past 7 days: Sunny, hot	
Photo Ids: Upstream: 192	Downstream: 191	Other: 193 (outfall) + concrete

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: Agricultural use / cropland small forest bluffs	

Evidence of Human Use*: Done 80 7-12-05

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other: outfall directly from farm				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

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Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>8</u>	Length (ft): <u>100</u>	Avg. Depth (ft): <u>0.25</u>	Max. Depth (ft): <u>0.75</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>5 ft³/3 sec</u>	

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>8</u>	Length (ft): <u>150</u>	Avg. Depth (ft): <u>0.25</u>	Max. Depth (ft): <u>0.75</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>5 ft³/4 sec</u>	

Substrate*: (These values should add up to 100%.)

<u>10</u> % Cobble	% Gravel	% Sand	% Silt	<u>90</u> % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

some algae, mostly along the banks

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>brown</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Shan Prater Date: 7/11/05
 Organization: Tetra Tech Position: Scientist

g. p. 7/11/05

0245-036-US



0245-036-DS



0245-036-Outflow

